Image shown may not reflect actual package.

PRIME
635 ekW 793 kVA
60 Hz 1800 rpm 480 Volts

Caterpillar® is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

ENCLOSURES (optional)
- Weather protective and sound attenuated

SINGLE-SOURCE SUPPLIER
- Complete systems designed and built at Caterpillar ISO certified facilities.
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- Worldwide parts availability through the Caterpillar dealer network
- With over 1844 dealer branch stores operating in 166 countries, you're never far from the Caterpillar part you need
- 99.7% of parts orders filled within 24 hours. The best product support record in the industry
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system
- Preventive maintenance agreements
- The Cat Scheduled Oil Sampling (S•O•S℠) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® 3412C TA DIESEL ENGINE
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight
- UL 2200 Listed packages are available. Certain restrictions may apply. Consult with you Caterpillar dealer

CAT® SR4B GENERATOR
- Designed to match performance and output characteristics of Caterpillar diesel engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated low voltage, AC/DC accessory box provides single point access to accessory connections
- UL 1446 Recognized Class H insulation system

CAT CONTROL PANELS
- Four levels of controls, designed to meet individual customer needs:
  - EMCP II provides digital monitoring, metering, and protection
- UL 508A Listed
  - EMCP II+ provides EMCP II features along with full-featured power metering and protective relaying
  - EMCP II+ Auto-Paralleling provides EMCP II+ features along with synchronization and load sharing
  - Switchgear conversion provides easy interface

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	•Single element canister type air cleaner •Service indicator	•Dual element air cleaner •Heavy-duty air cleaner
Cooling	• Radiator with guard • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant • Low coolant level alarm or shutdown	• Radiator duct flange • Jacket water heater with shutoff valve • Heat exchanger and expansion tank
Exhaust	• Stainless steel exhaust flex and ANSI outlet flange	• Mufflers (20, 25, or 30 dBA) • Elbow kit and through-wall installation kit • Manifold and turbocharger guards
Fuel	• Primary and secondary fuel filters • Water separator • Fuel priming pump • Flexible fuel lines • Fuel pressure gauge	• Manual transfer pump • Choice of three Automatic Transfer Systems • Low fuel level alarm
Generator	• Self excited • Class H insulation • Class F temperature rise (105°C prime/130°C stand-by) • VR3F Voltage Regulator, 3-phase sensing, 2:1 Volts/Hz • Reactive droop • Extension box • Bus bar connection	• Permanent magnet excited • Digital Voltage Regulator • Digital Voltage Regulator with KVAR/PF control • Anti-condensation space heater • Oversize and premium generators • Circuit breakers, IEC Compliant, 3-pole or 4-pole with shunt trip
Governor	• PEEC - Cat Electronic	• Electronic isochronous • Electronic load sharing
Control Panels	• EMCP II	• EMCP II+ • EMCP II+ with Auto-Paralleling • Switchgear conversion • Customer Communication Module • Local alarm and remote annunciator modules
Lube	• Lubricating oil and filter • Oil drain line with valves • Fumes disposal	• Manual sump pump
Mounting	• Formed steel base • Linear vibration isolators between base and engine-generator	• Skid base • Fuel tank base • Extended capacity fuel tank base
Starting/Charging	• 45 amp charging alternator • Energized to Run (ETR) fuel shutoff solenoid • 24 volt starting motor • Batteries with rack and cables	• Heavy-duty starting system • 5 or 10 amp battery charger • Oversize batteries • Ether starting aid • Battery disconnect switch
General		• Enclosures - sound attenuated, weather protective • Automatic transfer switches (ATS) • Floor standing circuit breakers • EU Certificate of Conformance (CE)

SPECIFICATIONS

CAT SR4B GENERATOR

Frame Size 595
Excitation . . . . . .Self Excited
Pitch 0.7333
Number of poles 4
Number of bearings . . . . . .Single Bearing
Insulation .UL 1446 Recognized Class H with tropicalization and antiabrasion
IP Rating . . . . . .Drip Proof IP22
Alignment . . . . . .Pilot Shaft
Overspeed capability - % of rated 125
Wave form . . . . . .Less than 5% deviation
Paralleling kit/Droop transformer . . . . . .Standard
Voltage regulator . . . . .3 Phase sensing with selectible volts/Hz
Voltage regulation . . . . . .Less than +/- 1/2% (steady state)
Less than +/- 1% (no load to full load)
Telephone Influence Factor . . . . . .Less than 50
Harmonic distortion . . . . . .Less than 5%

CAT DIESEL ENGINE

3412C TA V-12, 4-stroke-cycle watercooled diesel
Bore - mm 137.20
Stroke - mm 152.40
Displacement - L 27.02
Compression Ratio . . . . . .14.5 TO 1
Aspiration . . . . . .TA
Fuel system . . . . . .Mechanical pump and line
Governor type . . . . . .PEEC - Cat Electronic

CAT CONTROL PANELS

- EMCP II
- 24 Volt CD Control
- NEMA 1, IP22 enclosure
- Electronically dead front
- Lockable hinged door
- Generator instruments meet ANSI C-39-1
- Terminal box mounted
- Single location customer connection point
- EC compliant - segregated AC/DC connections
- Panel illuminating lights
- Auto start/stop control
- Voltage adjust potentiometer
- True RMS AC metering
- Digital indications for:
  - rpm
  - Operating hours
  - Oil pressure
  - Coolant Temperature
  - System DC volts
  - AC volts, phase amps, Hz
- Shutdowns with indicating lights for:
  - Low oil pressure
  - High coolant temperature
  - Overspeed
  - Emergency Stop
  - Failure to start (overcrank)

TECHNICAL DATA

Open Generator Set - — 1800 rpm/60 Hz/480 Volts	PRIME DM0631	
Package Performance		
Power rating	635 ekW	
Power rating @ 0.8 pf	793.75 kVA	
Fuel Consumption		
100% load with fan	171.0 L/hr	45.2 Gal/hr
75% load with fan	133.0 L/hr	35.1 Gal/hr
50% load with fan	95.5 L/hr	25.2 Gal/hr
Cooling System*		
Ambient air temperature	50 Deg C	122 Deg F
Air flow restriction (system)	.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	742 m3/min	26,204 cfm
Engine coolant capacity	59.0 L	15.6 Gal
Exhaust System		
Combustion air inlet flow rate	48.5 m3/min	1,712.8 cfm
Exhaust stack gas temperature	542.5 Deg C	1,009 Deg F
Exhaust gas flow rate	141.1 m3/min	4,982.9 cfm
Exhaust flange size (internal diameter)	203.2 mm	8.0 in
Exhaust system backpressure (maximum allowable)	6.7 kPa	26.9 in. water
Heat rejection		
Heat rejection to coolant (total)	395 kW	22,464 Btu/min
Heat rejection to exhaust (total)	637 kW	36,226 Btu/min
Heat rejection to atmosphere from engine	94 kW	5,346 Btu/min
Heat rejection to atmosphere from generator	33.63 kW	1,912.53 Btu/min
Alternator**		
Motor starting capability @ 30% voltage dip	1599 skVA	
Frame	595	
Temperature Rise	105 Deg C	
Lube System		
Lube oil refill volume with filter change for standard sump	60.0 L	15.9 Gal

*Ambient capability at 200 m (660 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

**Generator temperature rise is based on a 40 degree C ambient per NEMA MG1-32.

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: · ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG 1-22, VDE0530, 89/392/EEC, 89/336/EEC

Prime - Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request. Prime power ambients shown indicate ambient at 100 percent load which results in a coolant top tank temperature just below the alarm temperature.

Ratings are based on SAE J1995 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

Fuel Rates are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal).

Additional Ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

CATERPILLAR®

Package Dimensions		
Length	4485.0 mm	176.57 in
Width	1748.5 mm	68.84 in
Height	1986.7 mm	78.22 in
Weight	6991 kg	15,412 lb

Note: Do not use for installation design.
See general dimension drawings
for detail (Drawing #1540167).

CATERPILLAR FACILITIES ISO 9001 CERTIFIED

TMI Reference No.: DM0631

PL Reference No.: 412DE70

European Sourced

LEHE2368 25 February 2002 28084

www.CAT-ElectricPower.com